USDA

**United States
Department of
Agriculture**

Service Center
Initiative
(SCI)

Guide for Delimited File Format for Service Center Repository Metadata

Prepared by
Data Management Team

Abstract: This document defines a delimited file format specification that can be used to submit data model metadata to the repository. This format is available for those projects that do not use a supported CASE tool. Tabular as well as geospatial feature type metadata can be defined using these delimited file formats.

Keywords: delimited file format, tabular, geospatial feature type, metadata

Published and distributed in April 14, 2000

Document number: SCI Gd 004-01

Introduction

(This introduction is not part of the Guide for Delimited File Format for Service Center Repository Metadata.)

The Service Center Initiative (SCI) Data Management Team developed the April 2000 draft of the *Guide for Delimited File Format for Service Center Repository Metadata* to guide projects in the proper formatting of repository metadata when the source of the metadata is not from one of the supported Computer-aided Software Engineering (CASE) tools.

The individuals who contributed to the development of this guide are:

David Anderson, (NRCS) Service Center Data Team Leader
Dave Butler, (NRCS) Leader
Tom Richards, (FSA) Alt. Leader
Jim Schmidt, (NRCS) Alt. Leader

John Bussone (FSA)	Julie Degner (Soza)	Steve Springer (FSA)
Chuck Calcaterra (RD)	Mindy Gehrt (FSA)	Lee Stieger (FSA)
Ruth Davila-Johnston (FSA)	Lynette Harris (NRCS)	Rich Verhoff (RD)

Figure 1 – Working group list

Table of contents

GUIDE FOR DELIMITED FILE FORMAT
FOR SERVICE CENTER REPOSITORY METADATA

1.   Overview

This guide establishes the delimited file format specification to be used by projects when the source of their metadata is not one of the supported Computer-aided Software Engineering (CASE) tools. Using the delimited file formats both tabular and geospatial feature type metadata can be submitted to the repository. Tabular metadata is defined in the SCI Std 008, *Standard for Service Center Tabular Metadata* [A3]. Geospatial feature type metadata is defined in the SCI Std 005, *Standard for Geospatial Feature Metadata* [A2] Both of these metadata standards are dependent on naming standards, in particular the SCI Std 009, *Standard for Service Center Data Naming* [A4] and the SCI Std 004, *Standard for Geospatial Dataset File Naming* [A1].

1.1.   Scope

The scope of this document is to define a delimited file format for submitting tabular or geospatial feature type metadata to the central metadata repository managed by the Service Center Data Team (SCDT). Only a subset of the metadata defined in the tabular and geospatial feature standards is captured in CASE tools and therefore only that same subset is captured in these delimited files. The other metadata is provided to the repository via alternate mechanisms.

1.2.   Purpose

The delimited file format specification will be used by projects when the source of their tabular or geospatial feature type metadata is not one of the supported CASE tools. See the *Service Center Data Administration Concept of Operations* [A5] for more information.

1.3.   Acronyms and abbreviations

ASCII	American Standard Code for Information Interchange
BPR	Business Process Reengineering
CASE	Computer-aided Software Engineering
FSA	Farm Service Agency
NRCS	Natural Resource Conservation Service
OPER	Operational
RD	Rural Development
SCDT	Service Center Data Team
SCI	Service Center Initiative
UCC	Under Change Control
WIP	Work In Process

2.   Delimited file specification

2.1.   Delimited file contents

The following set of delimited files is used to collect metadata for a model. In the tabular world a model represents the metadata for a subsystem and its contained data element groups and data elements. In the geospatial world a model represents a subset of the metadata for a geospatial data set. The subset of metadata is focussed on the metadata describing the feature types contained in the data set and the attributes associated with those feature types. For detail definitions of the column contents, refer to the SCI Std 008, *Standard for Service Center Tabular Metadata* [A3] and the SCI Std 005, *Standard for Geospatial Feature Metadata* [A2].

2.1.1.   Model metadata

  File name: model.txt
 Description: This file contains metadata to define one model and is always required.

Table 1–Delimited file contents – model metadata

Column name	Obligation	Datatype/domain/comments
BusinessName	Required	String 50 Tabular [A3] – Subsystem : Subsystem name Geospatial [A2] – Geospatial dataset : Dataset title
Acronym	Required	String 50 Tabular [A3] – Subsystem : Subsystem acronym Geospatial [A2] – Geospatial dataset : Dataset acronym
VersionLabel	Required	String 8 Tabular [A3] – Subsystem : Subsystem version label Geospatial [A2] – Geospatial dataset : Dataset version label
Status	Required	Tabular [A3] – Administrative status Geospatial [A2] – same as tabular For Business Process Reengineering (BPR) projects (see SourceType) the value of this field will determine the level of validation to be applied. For example, definition can be empty for work in process metadata, but once under change control it is required metadata. (Note: as defined in [A3] & [A2], valid status values are Work In Process (WIP), Under Change Control (UCC) and Operational (OPER).
Definition	Conditional /is BPR & (UCC or OPER)	Free text Tabular [A3] – Subsystem : Subsystem definition Geospatial [A2] – Geospatial dataset : Dataset description
SourceType	Required	Tabular [A3] – N/A, processing instruction only Geospatial [A2] – N/A, processing instruction only Permissible Values: 'BPR' – metadata for a BPR project that must meet standards 'Legacy' – legacy metadata that may not meet standards 'External' – metadata from an external source that may not meet standards

Column name	Obligation	Datatype/domain/comments
ModelType	Required	Tabular [A3] – N/A, processing instruction only Geospatial [A2] – N/A, processing instruction only Permissible Values: 'Subsystem' – metadata for a tabular subsystem 'GeospatialDataSet' – geospatial feature type metadata
SystemAcronym	Optional /is Subsystem	String 50 Tabular [A3] – System : System acronym Geospatial [A2] – N/A
AliasName	Optional	String 100 Tabular [A3] – See footnote[1]. Geospatial [A2] – Geospatial dataset : File name When defining the model for a geospatial data set this column should be used to define the physical file name of the data set.
ContextLabel	Conditional /alias is provided	String 50 Tabular [A3] – N/A Geospatial [A2] – fixed value "File Name" If aliases are provided coordinate with repository administrators on this value.
CategoryTree	Conditional /is geospatial data set	String 255 String 50 (individual category) Tabular [A3] – N/A Geospatial [A2] – Geospatial dataset category : Category name The category for this geospatial data set. If there are multiple category levels these are specified using a "\" as a separator. For example, "Climate\Temperature."
CategoryAliasName	Optional	String 255 String 100 (individual alias) Tabular [A3] – See footnote[1]. Geospatial [A2] – Geospatial dataset category : Directory name Use this column to define the physical directory name for the category tree. For example, "climate\temperature."
CategoryContextLabel	Conditional /alias is provided	String 50 Tabular [A3] – N/A Geospatial [A2] – fixed value "Directory Name" If aliases are provided coordinate with repository administrators on this value.

2.1.2.   Group metadata

  File name: group.txt
 Description: This file contains metadata to define all groups contained in the model.
               For tabular models, a group is an entity or file. For geospatial models, a
               group is a feature type. This file is always required.

---

[1] The Standard for Geospatial Feature Metadata [A2] defines File name and Directory name metadata elements which are captured as aliases. The standards make no other reference to aliases. The mechanism is provided for use by projects when desired.

Table 2–Delimited file contents – group metadata

Column name	Obligation	Datatype/domain/comments
BusinessName	Required	String 50 Tabular [A3] – Data element group : Group name Geospatial [A2] – Geospatial feature type : Feature type name
Definition	Conditional /is BPR & (UCC or OPER)	Free text Tabular [A3] – Data element group : Group definition Geospatial [A2] – Geospatial feature type : Feature type definition
GeographicPrimitive	Conditional /is geospatial data set	Tabular [A3] – N/A Geospatial [A2] – Geospatial feature type : Geographic primitive Permissible Values: 'Polygon' 'Line' 'Point' 'Text' 'Grid' 'Raster'
AliasName	Optional	String 100 Tabular [A3] – See footnote[1]. Geospatial [A2] – N/A
ContextLabel	Conditional /alias is provided	String 50 Tabular [A3] – N/A Geospatial [A2] – N/A If aliases are provided coordinate with repository administrators on this value.

2.1.3.   Element metadata

File name: element.txt
Description: This file contains metadata to define all data elements (or attributes)
             contained in the model. There are cases where this file may not be
             needed, e.g., a model of a geospatial data set that contains a raster feature
             type, which has no attributes (or elements).

Table 3–Delimited file contents – element metadata

Column name	Obligation	Datatype/domain/comments
BusinessName	Required	String 50 Tabular [A3] – Data element : Data element name Geospatial [A2] – same as tabular
Definition	Conditional /is BPR & (UCC or OPER)	Free text Tabular [A3] – Data element : Data element definition Geospatial [A2] – same as tabular

Column name	Obligation	Datatype/domain/comments
Datatype	Required	Tabular [A3] – Data element : Datatype Geospatial [A2] – same as tabular Permissible Values with Length/Precision requirements: Datatype Length Precision Integer - - ShortInteger - - LongInteger - - Byte Opt - Number Opt Opt Decimal Opt Opt Float - - ShortFloat - - LongFloat - - Money Opt Opt Serial - - Boolean - - Characters Req - VariableCharacters Req - LongCharacters Opt - LongVariableCharacters Opt - Text Opt - MultiByte Opt - VariableMultiByte Opt - Date - - Time - - DateTime - - Timestamp - - Binary Req - LongBinary Opt - Bitmap Opt - Image Opt - OLE Opt - GUID - -
Length	Conditional /based on datatype	Integer Tabular [A3] – Data element : Length Geospatial [A2] – same as tabular
Precision	Conditional /based on datatype	Integer Tabular [A3] – Data element : Precision Geospatial [A2] – same as tabular
PermissibleValueType	Conditional /domain is restricted	Tabular [A3] – Data element : Permissible values Geospatial [A2] – same as tabular Permissible Values: 'Enumeration' – list of values specified in values.txt 'Range' – values constrained by a minimum and/or maximum 'Reference' – title of an external source
Minimum	Conditional /domain is range and max not specified	String 25 Tabular [A3] – Data element : Permissible values Geospatial [A2] – same as tabular Ranges may be open-ended. Ranges may be numeric or character.

Column name	Obligation	Datatype/domain/comments
Maximum	Conditional /domain is range and min not specified	String 25 Tabular [A3] – Data element : Permissible values Geospatial [A2] – same as tabular Ranges may be open-ended. Ranges may be numeric or character.
Reference	Conditional /domain is reference	String 50 Tabular [A3] – Data element : Permissible values Geospatial [A2] – same as tabular
AliasName	Optional	String 100 Tabular [A3] – See footnote[1]. Geospatial [A2] – same as tabular
ContextLabel	Conditional /alias is provided	String 50 Tabular [A3] – N/A Geospatial [A2] – N/A If aliases are provided coordinate with repository administrators on this value.

2.1.4.   Group to element link metadata

   File name: gelink.txt
 Description: This file links elements to the group(s) that contain them. The order that elements are listed within a group will be maintained in the repository. This file is required when there are elements.

Table 4–Delimited file contents – group to element link metadata

Column name	Obligation	Datatype/domain/comments
GroupName	Required	This table – Group : BusinessName
ElementName	Required	This table – Element : BusinessName
AliasName	Optional	String 100 Tabular [A3] – See footnote[1]. Geospatial [A2] – See footnote[1]. This column is used to define an alias that applies to the element as it is used or contained in this particular group.
ContextLabel	Conditional /alias is provided	String 50 Tabular [A3] – N/A Geospatial [A2] – if captured, fixed value "GIS Field Name" If aliases are provided coordinate with repository administrators on this value.

2.1.5.   Enumerated value metadata

   File name: values.txt
 Description: This file contains the enumerated values for all data elements that had an enumerated domain. This file is required when at least one element has an enumerated value list.

Table 5–Delimited file contents – enumerated value metadata

Column name	Obligation	Datatype/domain/comments
ElementName	Required	This table – Element : BusinessName
Value	Required	String 30 Tabular [A3] – Data element : Permissible values Geospatial [A2] – same as tabular
Definition	Conditional /is BPR & (UCC or OPER)	String 224 Tabular [A3] – Data element : Permissible values Geospatial [A2] – same as tabular

2.2. Delimited file constraints

In order to submit delimited file format metadata to the repository the following constraints must be adhered to.

— All files (as defined in Table 1) will be located in a singular directory.
— The file must be an American Standard Code for Information Interchange (ASCII) file with 'txt' extension.
— The first row of each delimited file will contain the column names as specified in Table 1.
— The delimiter will be a comma ','.
— The text qualifier will be a double quote '"'.

Appendix A – Bibliography

When the following standards are superseded by an approved revision, the revision shall apply.

[A1]   SCI Std 004, Standard for Geospatial Dataset File Naming

[A2]   SCI Std 005, Standard for Geospatial Feature Metadata

[A3]   SCI Std 008, Standard for Service Center Tabular Metadata

[A4]   SCI Std 009, Standard for Service Center Data Naming

[A5]   Service Center Data Administration Concept of Operations

Appendix B – Tabular metadata example

Table 6–model.txt (tabular)

"BusinessName","Acronym","VersionLabel","Status","Definition","SourceType","ModelType","SystemAcronym","AliasName","ContextLabel","CategoryTree","CategoryAliasName","CategoryContextLabel"
"Common Lookup Tables","LkTbl","1.0","UnderChangeControl","The set of lookup tables common to Service Center partner agencies.","BPR","Subsystem","","","","","",""

Table 7–group.txt (tabular)

"BusinessName","Definition","GeographicPrimitive","AliasName","ContextLabel"
"County","Standard name and numeric code used to identify counties and equivalent entities of the United States, its possessions and associated areas.","","county","Table Name"
"State","Lookup table containing the State FIPS code, State name and State abbreviation.","","state","Table Name"

Table 8–element.txt (tabular)

"BusinessName","Definition","Datatype","Length","Precision","PermissibleValueType","Minimum","Maximum","Reference","AliasName","ContextLabel"
"State Code","The GSA Locator Code (based on FIPS PUB 5-2) number for a state within the United States, or a U.S.Territory. Examples: 01 = Alabama, 02 = Alaska, 20 = Kansas, 29 = Missouri, 51 = Virginia Note: These codes are stored in character fields to preserve the leading zero.","Characters",2,,"Reference","","","FIPS PUB 5-2","",""
"County Name","The name of a county located within a given state.","Characters",35,,"","","","","",""
"State Name","The name of a state belonging to the United States of America.","Characters",30,,"Enumeration","","","","",""
"State Abbreviation","The Federal Information Processing Standards (FIPS) abbreviation for a state within the United States. Also known as the United States Postal Service (USPS) abbreviation. The following are examples: AL = Alabama, AK = Alaska, AZ = Arizona, MO = Missouri, KS = Kansas","Characters",2,,"","","","","",""
"County Code","The standard code used to identify Counties and equivalent entities of the United States, its possessions, and associated areas as specified in the GSA Locator Codes (based on FIPS PUB 6-4). A county code is only unique if it is combined with a state code. Example: 01 003 = Baldwin County in Alabama Note: These codes are stored as character fields to preserve the leading zeroes.","Characters",3,,"Reference","","","FIPS PUB 6-4)","",""

Table 9–gelink.txt (tabular)

"GroupName","BusinessName","AliasName","ContextLabel"
"County","State Code","state_cd","Column Name"
"County","County Code","cnty_cd","Column Name"
"County","County Name","cnty_nm","Column Name"
"State","State Code","state_cd","Column Name"
"State","State Name","state_nm","Column Name"
"State","State Abbreviation","state_abbr","Column Name"

Table 10–values.txt (tabular)

"ElementName","Value","Definition"
"State Name","ALABAMA",""
"State Name","ALASKA",""
"State Name","ARIZONA",""
"State Name","ARKANSAS",""
"State Name","CALIFORNIA",""
"State Name","COLORADO",""
"State Name","CONNECTICUT",""

```
"State Name","DELAWARE",""
...
```

Appendix C – Geospatial metadata example

Table 11–model.txt (geospatial)

"BusinessName","Acronym","VersionLabel","Status","Definition","SourceType","ModelType","SystemAcronym","AliasName","ContextLabel","CategoryTree","CategoryAliasName","CategoryContextLabel"
"Public Land Survey System","PLSS","1.0","WorkInProcess","Information relating to the United States Public Land Surveying System.","BPR","GeospatialDataSet","","plss","File Name","Cadastre","cadastre","Directory Name"

Table 12–group.txt (geospatial)

"BusinessName","Definition","GeographicPrimitive","AliasName","ContextLabel"
"Range Line","An external boundary of a US Public Land Survey System township, extending in a north south direction.","Line","",""
"Section Area","The primary unit into which a township is subdivided, normally a quadrangle one mile square with boundaries conforming to meridians and parallels with established limits and containing 640 acres as near as may be.","Polygon","",""

Table 13–element.txt (geospatial)

"BusinessName","Definition","Datatype","Length","Precision","PermissibleValueType","Minimum","Maximum","Reference","AliasName","ContextLabel"
"Length","The length of the feature.","Decimal",,,"","","","","lngth","GIS Field Name"
"Length Unit of Measure","The unit of measure for the length of the line.","Characters",16,, "","","","","lngth_um","GIS Field Name"
"Section Description","A description of the section areas.","Characters",60,,"","","","","",""
"Section Size","The size of the area, zone, or polygon in square units.","Decimal",,,"","","","","",""
"Section Size Unit of Measure","The unit of measure for area.", "Characters",30,,"Enumeration","","","","",""

Table 14–gelink.txt (geospatial)

"GroupName","BusinessName","AliasName","ContextLabel"
"Range Line","Length","",""
"Range Line","Length Unit of Measure","",""
"Section Area","Section Description","",""
"Section Area","Section Size","",""
"Section Area","Section Size Unit of Measure","",""